Virtual Rain and Stream Gauge Information Service

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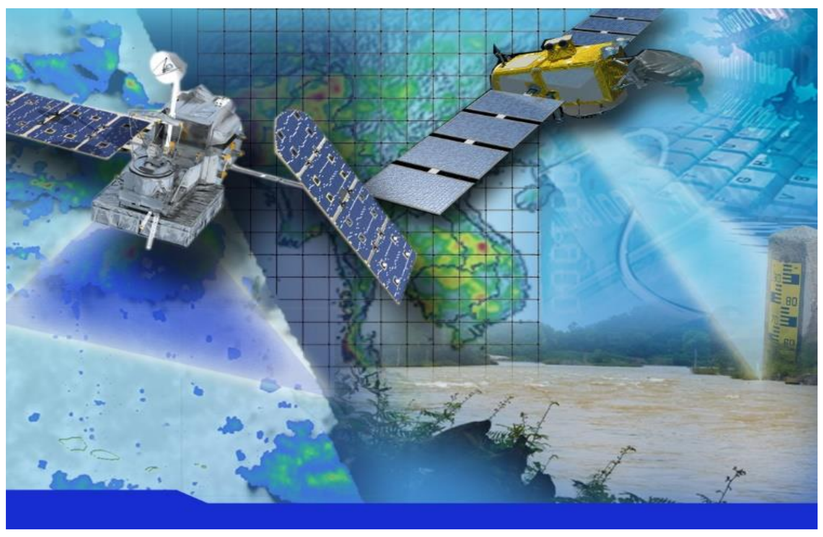
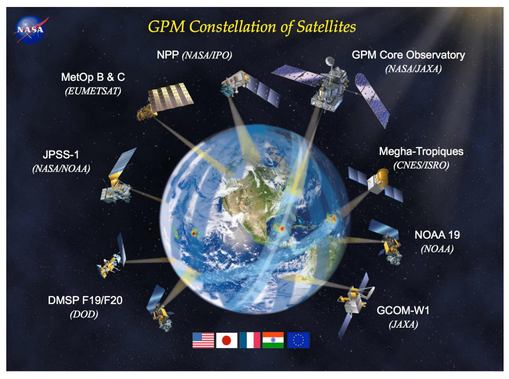
Why this project?

- Rain gauge and stream gauge data are sparse in time and space, which hampers decision making for long term planning and development in the Lower Mekong Region (LMR).
- River flow data is not widely shared, especially transboundary data, among countries in the LMR.
- High resolution near-real time data such as that produced by this system are extremely useful for "Now-casting" and for disaster risk reduction of hydro-meteorological and related hazards (floods, landslides, etc.) in the LMR.

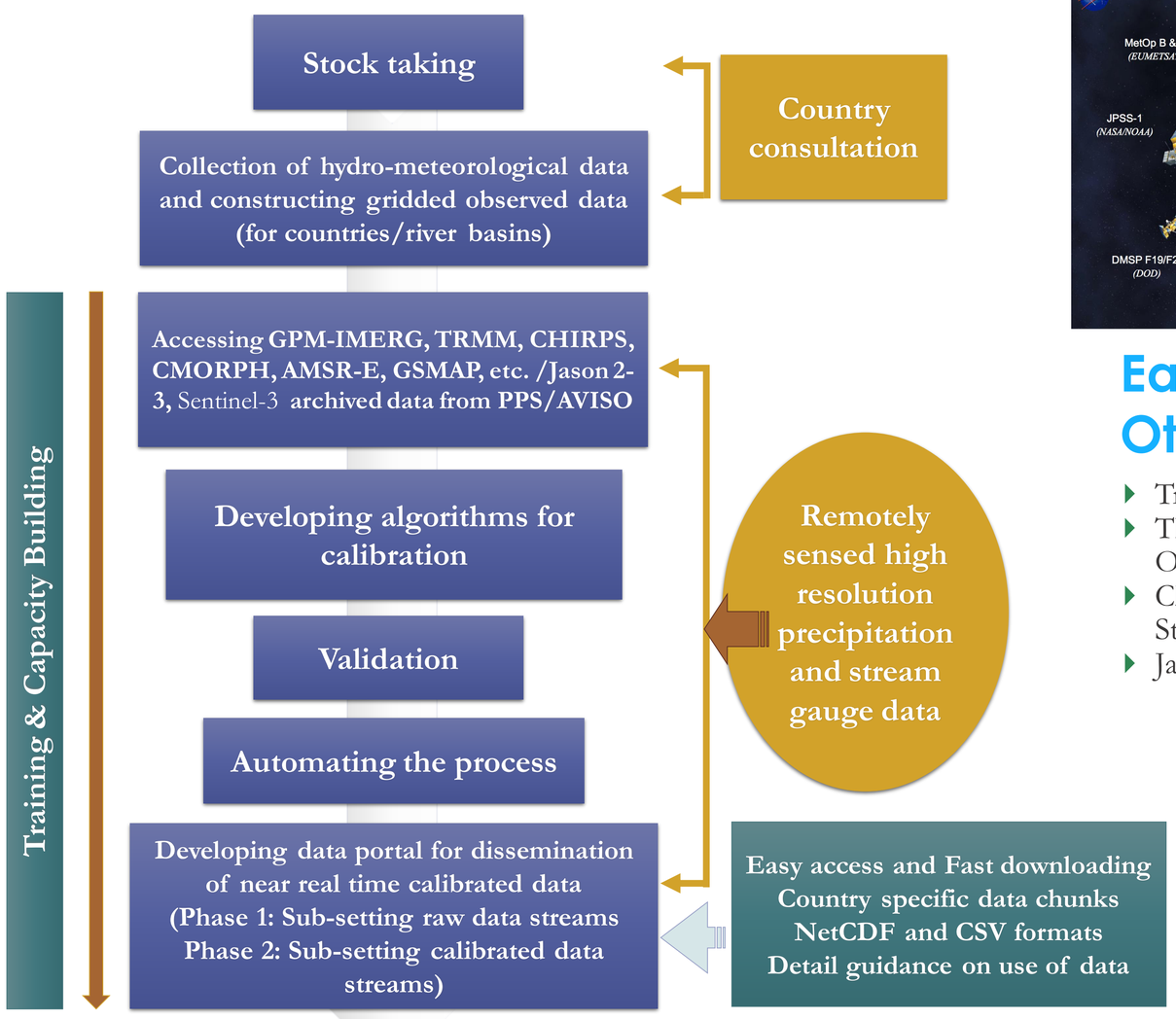




Objectives

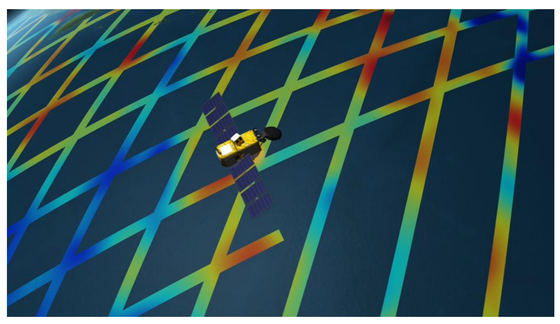
- Better access to and analytical capabilities for GPM-IMERG, TRMM, CHIRPS, and Jason-2/3 data;
- Increased consistency and standardization of data formats available to end users;
- More convenient access to data products from the precipitation estimation missions and the altimetry profiling missions;
- Increased availability of guidance on using these valuable data streams for a variety of applications including flood forecasting, water resource accounting /management and landslide risk assessment /management;
- Open access to a near real-time "virtual rain gauge" and "virtual stream gauge" data at points widely distributed over the LMR via a web portal and Web Map Service (WMS) data feeds and an Application Program Interface (API) to facilitate on-demand data analysis

Approach/Project Activities



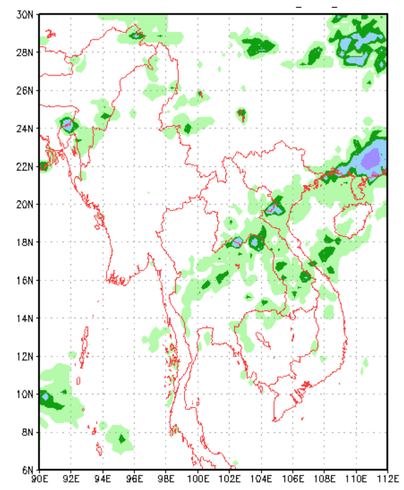
Earth Observations and Other Inputs

- Tropical Rainfall Measuring Mission (TRMM) data
- The Global Precipitation Measurement (GPM) Core Observatory and partner satellites data
- Climate Hazards Group InfraRed Precipitation and Station (CHIRPS)
- Jason-2/3 and Sentinel-3 altimetry profiling data

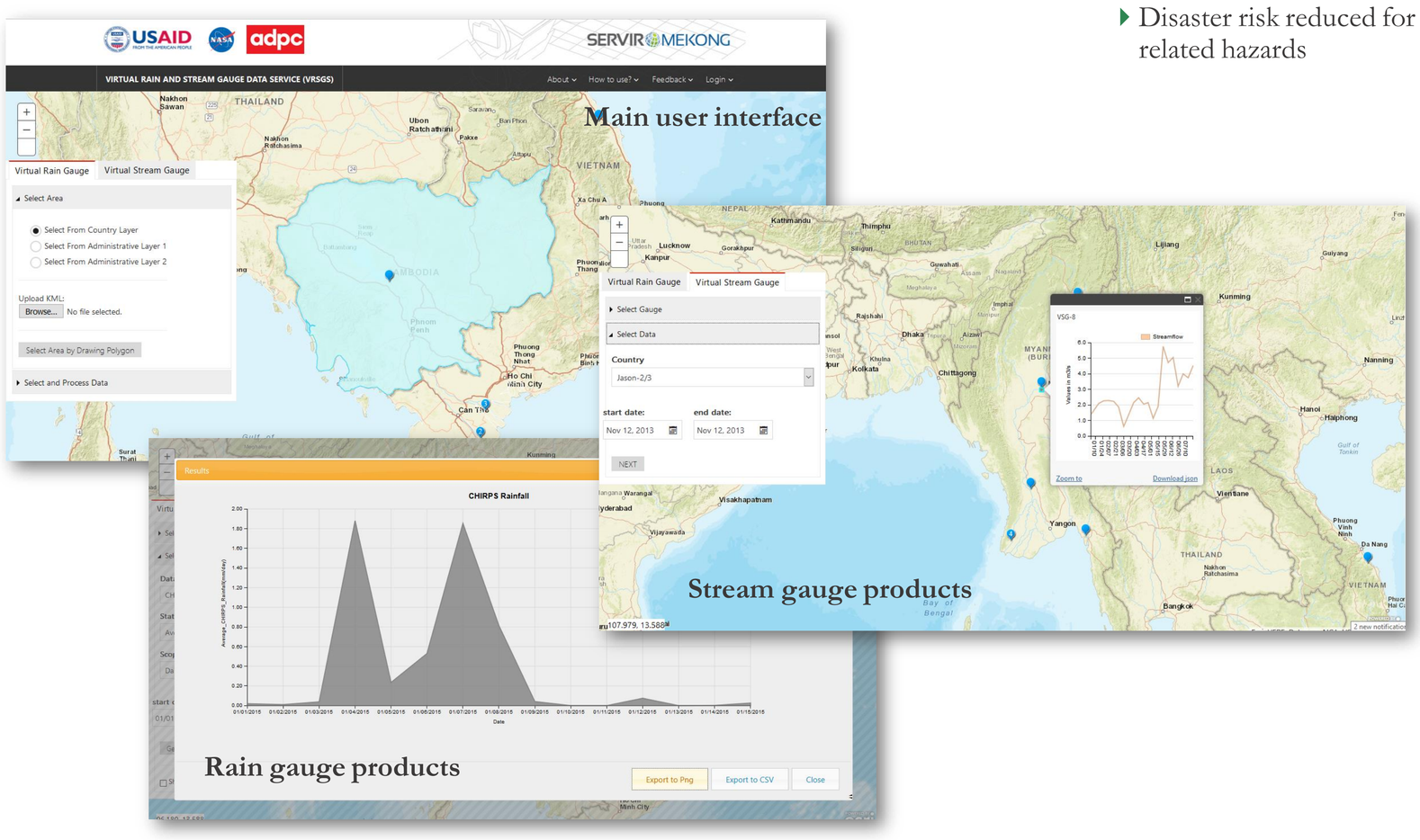


Outcomes/Anticipated Impacts

- Improved near-real time virtual rainfall gauge and virtual stream gauge data sets for:
  - hydrological and hydrodynamic modeling;
  - flood forecasting / warnings;
  - landslide early warnings;
  - Flash flood guidance;
  - river basin / reservoir management;
  - transboundary river flow management.
- Improved decision making for long-term planning and development
- Disaster risk reduced for hydro-meteorological and related hazards



Results



Project Partners

Asian Disaster Preparedness Center (ADPC)

Stockholm Environment Institute (SEI)

Spatial Informatics Group (SIG)

University of Houston (UH) - USA

End Users

- Department of Meteorology and Hydrology (DMH), Myanmar
- Myanmar Technical University (MTU)
- Vietnam National University (VNU)
- Mekong River Commission (MRC)
- Vietnam Academy of Water Resources (VAWR)
- Institute of Meteorology, Hydrology and Environment (IMHEN), Vietnam